

# INTERNATIONAL SEARCH REPORT

PCT/GB2004/001491

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 B23K20/12 B21D26/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B23K B21D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 245 325 A (BOEING CO) 2 October 2002 (2002-10-02) paragraphs '0002!', '0010!'; figures 5,7	1,2,6-27
A	-----	3-5,28
X	WO 02/070186 A (HAMA YASUYUKI ; AKIYAMA HIROSHI (JP); NARITA MASAYUKI (JP); HASHIMOTO) 12 September 2002 (2002-09-12) figures 11-13	1-5,7-28
A	& US 2004/074949 A1 (HAMA YASUYUKI ET AL) 22 April 2004 (2004-04-22) paragraphs '0097! - '0103!; figures 11-13	6
X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 05, 31 May 1999 (1999-05-31) & JP 11 047859 A (MITSUBISHI HEAVY IND LTD), 23 February 1999 (1999-02-23) abstract; figures	1-4, 6-10, 12-26

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*Z\* document member of the same patent family

Date of the actual completion of the international search

21 July 2004

Date of mailing of the international search report

28/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Jaeger, H

# INTERNATIONAL SEARCH REPORT

PCT/GB2004/00149 1

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1245325	A	02-10-2002	US 2002142183 A1	03-10-2002
			EP 1245325 A1	02-10-2002
			US 2003071107 A1	17-04-2003
WO 02070186	A	12-09-2002	JP 2002263862 A	17-09-2002
			JP 2002273580 A	25-09-2002
			DE 10296452 T0	04-03-2004
			WO 02070186 A1	12-09-2002
			US 2004074949 A1	22-04-2004
US 2004074949	A1	22-04-2004	JP 2002263862 A	17-09-2002
			JP 2002273580 A	25-09-2002
			DE 10296452 T0	04-03-2004
			WO 02070186 A1	12-09-2002
JP 11047859	A	23-02-1999	NONE	